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Survey of Teleconferencing Use in Ontario

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EXECUTIVE SUMMARY

INTRODUCTION

"Teleconferencing" means the use of a variety of telecommunications technologies to allow geographically-separated individuals to hold a person-to-person conference without having to travel, except possibly to a teleconferencing node. Teleconferencing may be simply a three-person telephone conversation. More elaborately, it may involve voice and/or video communication over a dedicated line, hard copy transmission or visual display.

Teleconferencing is the most likely significant travel substitute this decade. It can be expected to have more impact on reducing business travel than electronic mail or the decentralized office. Thus, the Teleconferencing Task Force of the Transportation Energy Management Program commissioned this study to assess:

- the current use of teleconferencing by Ontario businesses;
- the potential use and plans for teleconferencing in the Ontario business sector;
- attitudes of users and non-users toward teleconferencing; and
- the amount of travelling which can be replaced by teleconferencing.

METHOD

The study consisted of interviews conducted by telephone with 307 companies in Ontario. The companies were randomly selected from a Dun & Bradstreet listing consisting of Ontario firms with:

- corporate headquarters in Ontario,
- more than one establishment,
- more than 250 employees, and
- excluding government organizations.

The ideal respondent at each company was an individual with knowledge of their company's business travel and telecommunications, both from an operational and policy perspective. In cases where these functions were managed by two different people, both company representatives were interviewed.

USE OF TELECONFERENCING

About 72% of companies contacted use some form of teleconferencing. Some three-quarters of users use Speakerphones. Slighty more than half report using the Bell Conference Operator. Private bridges, the Conference 2000 system and CNCP Broadband are used less often. Teleconferencing devices are typically used several times within a week.

The typical user firm has six to ten establishments and between 500 and 1000 employees. The majority are manufacturers and subsidiaries of larger corporations. Most user firms have taken steps to reduce the number of business trips they make.

Within user corporations, teleconferencing is common to a large number of departments and is used for a wide variety of purposes. The majority of user firms plan to increase their use of teleconferencing over the next two years.

Attitudes toward teleconferencing among users are generally favourable, although about one-third believe that teleconferencing can never replace a face-to-face meeting. Accompanying these attitudes is a widespread belief that senior executive support is needed before companies will adopt teleconferencing.

Currently, about one-quarter of users are experiencing a decrease in their travel which they attribute to teleconferencing. Nonetheless, some 60% of users estimate that some future trips can be replaced by teleconferencing. Estimates indicate that between 20% to 25% of trips can probably be replaced by teleconferencing.

COMPARING USERS AND NON-USERS

User firms tend to have more employees than non-user firms. Users also do more within-company travel and are more likely to be trying to cut down on the number of their business trips.

Non-users do not see teleconferencing as a travel substitute. Neither do they see it as a money or time saver. It is not surprising then, that non-users do not see teleconferencing as suitable for their company.

COMPARING FREQUENT AND INFREQUENT USERS

Frequent and infrequent users of teleconferencing differ in their patterns of use. Frequent users use more devices and use them more often. Data processing departments are also more common users in frequent user companies.

Frequent users seem more satisfied with their teleconferencing. This is indicated by the intent of a high proportion of frequent users to increase their use of teleconferencing in the next two years. This is similarly reflected in the finding that frequent users see more time and cost savings arising from the use of teleconferencing.

MARKETING RECOMMENDATIONS

There are two primary audiences for marketing purposes: users and non-users. Regardless of target, however, it is clear that senior executive support must be garnered for the use of teleconferencing. Thus, any successful marketing thrust should include senior executives as a major target.

A marketing thrust directed at non-users is difficult to pinpoint without more in-depth comparison of users and non-users. Nonetheless, the data suggest some directions. Non-users should be convinced that by reducing the number of trips they make, they can improve corporate profits. In turn, it must be demonstrated that teleconferencing is a way to reduce

travel expenditures without jeopardizing sales. Teleconferencing must also be shown to be a suitable vehicle for communication between organizations -- not just for communication within an organization. This would strengthen its position substantially with non-users.

Marketing teleconferencing to users should emphasize making the best use of teleconferencing devices. This would require a better understanding of the types of travel substitution opportunities and the type of teleconferencing method or device which is most appropriate for that opportunity. This assumes that there is some differential appropriateness. If this information is available, it could well encourage infrequent users to adopt more methods of teleconferencing. As well, it might foster a greater use of teleconferencing overall. A better match of device and travel substitution opportunity could also help establish teleconferencing as a method for saving time and money by reducing business travel.

The likelihood of success of a marketing effort seems high. Some 63% of companies we contacted indicated a desire for more information about teleconferencing. This points to a receptive corporate audience.

1/ INTRODUCTION

1.1/ Purpose of the Study

Teleconferencing is the most likely significant travel substitute this decade. It can be expected to have more impact on reducing business travel than electronic mail or the decentralized office (Abt Associates of Canada for the Ministry of Transportation and Communications, 1980).

The Ontario Ministry of Transportation and Communications (MTC) has successfully introduced its own audio teleconferencing program, and is extending this service to other ministries. The government's strategy is now to promote the use of teleconferencing in the business sector to realize potential savings in transportation energy.

In support of this policy, MTC and the Ministry of Energy have set up a Teleconferencing Task Force under the aegis of the Transportation Energy Management Program (TEMP). The Task Force has commissioned this study to:

- Determine the current use of teleconferencing by Ontario businesses.
- Determine potential use and plans for teleconferencing in the Ontario business sector.
- Assess the attitudes of users and non-users toward teleconferencing, its advantages and disadvantages, and its potential for travel substitution.
- Assess the amount of travelling which can be replaced by teleconferencing.
- Determine the demand for assistance offered by TEMP.

1.2/ Definition of Teleconferencing

"Teleconferencing" means the use of a variety of telecommunications technologies to allow geographically-separated individuals to hold a person-to-person conference without need for travel, except possibly to a

teleconferencing node. Teleconferencing may be simply a three-person telephone conversation. More elaborately, it may involve voice and/or video communication over a dedicated line, hard copy transmission and even visual display.

This study focusses on five types of audio teleconferencing. These include teleconferences using: Speakerphone, Bell Canada's Conference 2000 system, Bell Conference Operator, CNCP Broadband, and private bridge.

Some uses of the Speakerphone cannot be considered audio teleconferencing, strictly speaking. Sometimes Speakerphones are just used to allow a manager to have "hands-free" communication in a normal telephone call. Meetings structured to take advantage of the Speakerphone can, however, be considered to represent audio teleconferencing (ATC).

This study is also concerned with visual support for audio teleconferences including communicating word processors, slow-scan video, telecopier or Fax Com, electronic graphics, telex, and full motion real-time video. As well, the study looks at the use of other teleconferencing methods or supplements such as computer conferencing and electronic mail.

The definitions used in this report, of teleconferencing and of each of the teleconferencing methods or devices, are listed in Appendix A.

2/ METHODOLOGY

2.1/ The Sample

The sample universe represents a listing by Dun & Bradstreet of 1268 businesses defined by the following criteria:

- corporate headquarters in Ontario,
- more than one establishment,
- more than 250 employees, and
- excluding government organizations.

A total of 307 companies were interviewed. The companies were randomly selected from the sample universe.

The ideal respondent at each company was an individual with knowledge of their company's business travel and telecommunications, both from an operational and a policy perspective. In cases where these functions were managed by two different people, both company representatives were contacted. The instructions given to interviewers about how to choose respondents and how to contact a company are presented in Appendix B.

2.2/ Interviewing

Calling was done from Canadian Facts' Central Location Telephone Facilities in Toronto, Ottawa, Hamilton and London. Some 546 telephone numbers were tried in order to obtain 307 completions. Table 1 (see Appendix D for all tables) describes the reasons for excluding contacted firms and reasons for non-completion. As may be seen in the table, the major reasons for non-completion were that the respondent was not available or the respondent refused.

Interviewing for this study commenced September 2nd, 1982, and was completed by September 16th, 1982.

2.3/ The Survey Questionnaire

The survey questionnaire was a joint effort of the MTC study team and the consultants' study team. The questionnaire developed from an outline of information requested by the Ministry into a series of questions which could be answered easily by respondents. The questionnaire was pilot tested on 20 corporate respondents before going to field. As well, a check of responses was made when 75 completions had been achieved in order to ensure that the survey questionnaire was being answered in an appropriate way.

A copy of the survey questionnaire can be found in Appendix C.

3/ USER PROFILE

3.1/ Introduction

This chapter describes the current use of teleconferencing by Ontario businesses. It describes the devices and methods used, and the characteristics of corporate users. The findings also bear upon the potential use and plans for teleconferencing among users. Findings also assess the amount of travel which is currently being replaced by teleconferencing and the amount which can be replaced. In addition, this chapter looks at the attitudes of those who use teleconferencing towards a number of facets of teleconferencing.

3.2/ Use of Teleconferencing

About 72% of companies contacted use some form of teleconferencing (see Table 2). Some three-quarters of users use Speakerphones. Slightly more than half report using the Bell Conference Operator. Private bridges are used by about one-quarter of users, while Conference 2000 systems (15%) and CNCP Broadband (6%) are used by smaller numbers. Teleconferencing devices are used an average of one to four times per week with the exception of CNCP Broadband (see Table 3 for a detailed breakdown). Users of CNCP Broadband report use on a daily basis.

About half of all users (46%) use only one audio teleconferencing method or device. This 46% can be divided into:

- 25% using only Speakerphone,
- 2% using only the Conference 2000,
- 13% using only the Bell Conference Operator,
- 6% using only a private bridge, and
- 0% using CNCP Broadband only.

The remaining 54% of users report two or more audio teleconferencing methods or devices used. For the majority of cases, a Speakerphone is one of the devices they operate.

As well, some 16% use computer conferencing or electronic mail. Use of slow-scan video and full motion real-time video are reported by less than 5% of respondents. But checks on these responses indicated that they were miscodings.

Many respondents reported using telex, telecopier, communicating word processors or electronic graphics. These responses are not reported because they are suspect. It is likely that some people indicated using these devices, whether they were using them for teleconferencing or not. In the case of telecopiers, it is likely that many respondents confused telecopiers with photocopiers. Electronic graphics may not have been well understood.

Teleconferencing is used by many departments within user corporations (see Table 4). It is used by virtually all administrative/finance departments (92%). It is also heavily used by marketing/sales group (77%). As well, about half of all user companies report use by their personnel, data processing, production and engineering research departments.

Teleconferencing is also used for a variety of purposes (see Table 5). It is almost always used (92%) for information exchange -- but this is too general a usage to further our understanding. More particularly, a majority of users use it for problem solving (66%) and planning (58%). Committee and staff meetings are another common use of audio teleconferencing (42%); while use for inspection-supervision and training (21%) is comparatively unusual.

Findings also indicate a high degree of user satisfaction with teleconferencing, providing one accepts plans to increase use as an indirect indicator of satisfaction (see Table 6). If this is the case, then the 54% of users who plan to increase their use of teleconferencing is a powerful statement of its usefulness. In contrast, it is noted that only 2% expect their use to decline.

3.3/ Characteristics of Companies Using Teleconferencing

When reading this section, caution must be taken in interpreting figures. This is because this sample includes only the largest Ontario companies, those with over 250 employees and more than one establishment. Against this background, this section examines the characteristics of users in the sample.

The typical firm (median) has between six to ten establishments across Canada (see Table 7), but more than one-quarter of users come from firms with 25 or more establishments. Typically, the company has between 400-700 employees across Canada.

Slightly more than half of the companies are subsidiaries of some parent corporation. As well, slightly more than half of companies are considered manufacturers. About 20% of companies come from the insurance/financial sector and about 14% are retailers.

The majority of companies (56%) say that their travel is mainly outside of Ontario (see Table 8), with an additional 26% describing their travel as equally split between travel in and out of the province. Few companies reported travel mainly in Ontario (16%). But, virtually every company contacted (96%) did have some trips involving Ontario.

The majority of firms reported travel mainly within their organization (57%) but about one-quarter of firms claimed travel mainly outside their organization. The remainder travelled equally within and without.

The most common travel destinations were Montreal (16%) and Vancouver (12%). No other location accounted for more than 10% of trips.

In the vast majority of cases, user trips were taken by air (79%). Most remaining trips were by car (18%). The use of other means of travel was negligible.

Major reasons for travelling roughly parallelled the rank order of reasons that people gave for using teleconferencing (see Table 9). That is

to say, that people have the same reasons for travelling as they did for teleconferencing. No obvious differentiation appeared.

Given the focus of teleconferencing as a means of replacing travel, it is noteworthy that some 69% of firms have taken steps to reduce the number of business trips they make (see Table 10).

3.4/ Attitudes Towards Teleconferencing

In order to appreciate the responses to attitude questions, we should understand the basis of the responses. Familiarity with teleconferencing is one good indicator of response accuracy. While all users are, of course, familiar with the equipment, some 24% are not familiar with the term "teleconferencing" (see Table 11). Exposure to the survey, however, has certainly altered that figure.

It is also useful to know what users see as the advantages and disadvantages of teleconferencing. The major advantage reported (see Table 12) is that it saves time (61%). As well, users believe that teleconferencing saves money (37%), improves general efficiency (18%), and allows more staff to attend the same meeting (18%).

Users cite disadvantages far less often than advantages. The major disadvantages cited (see Table 13) are the loss of face-to-face contact (17%), the high cost of teleconferencing (13%), equipment problems (7%), and the difficulty of arranging teleconferencing schedules (5%).

Having explored some basic background attitudes, the survey also looked at other facets of teleconferencing. Respondents were asked to rate the accuracy of a series of statements about teleconferencing on a one-to-ten scale. As often happens when this type of scale is used to assess non-central attitudes, much of the opinion clustered in the middle of the scale -- the 4-to-7 range. Responses in this range tend to be random and hard to interpret accurately for questions like these. Thus, we divided respondents into three groups:

- Strongly believe (8-10)
- Strongly disbelieve (1-3)
- Neutral (4-7)

In general, we will talk about the "strongly believe" category.

About 5% of users strongly believe that the voice quality of teleconferencing is a problem (for medians, see Table 14), and 12% stongly believe that teleconferencing quality needs improvement to foster use. About one-third strongly believe that teleconferencing can never replace a face-to-face meeting, while only 18% strongly believe that it can. As well, some 15% of users strongly believe that video teleconferencing is about as expensive as flying.

About 42% of users strongly believe that once someone knows the facts about teleconferencing, they will use it. Only 7% of users take a directly opposing view (strongly disbelieve). Similarly, almost half strongly believe that exposure to teleconferencing and getting some understanding will lead to use. Only 5% take the directly opposing view (strongly disbelieve).

Users also have some interesting views about things which aid or inhibit the adoption of teleconferencing. Some 70% of users strongly believe that senior executive support is needed before companies will use teleconferencing. Only 4% are strongly opposed to this view. Not many users (16%) strongly believe that enjoyment of travel is a barrier to use. Travel enjoyment also does not seem to be a significant factor.

Consistent with the emphasis of TEMP, the study finds that almost half of users (45%) strongly believe that reducing travel time or cost is a major reason for adopting teleconferencing. Finally, about one-third of users strongly believe that their company could make more use of teleconferencing and an additional 17% would agree with this contention. About 20% are inclined to believe that their company cannot make more use of teleconferencing.

3.5/ Travel Substitution

About two-thirds of users believe that teleconferencing has had no effect on their business travel (see Table 15); while about one-quarter say it

has decreased their business travel. Only 2% see an increase in business travel as a result of teleconferencing.

Among those reporting a decrease in business travel, the average decrease is about 20% of trips replaced by teleconferencing (see Table 16). But, this estimate is based on only 42 respondents and should be used only with great caution.

Among all users, almost 60% estimate that some future trips can be replaced by teleconferencing (see Table 17). Roughly, they estimate about one-quarter of trips can probably be replaced.

Thus, many more firms indicate a belief that travel can be replaced by teleconferencing than are currently experiencing this benefit. The proportion of trips which companies anticipate replacing is consistent with the experience of those firms who are currently benefitting from a decrease in travel which they attribute to teleconferencing. That is, estimates of travel substitution by teleconferencing are about 20% to 25% of trips.

3.6/ Summary User Profile

The typical teleconferencing user uses two methods or devices and uses these on a regular basis. Within user corporations, teleconferencing usage is common to a large number of departments and is used for a wide variety of purposes. The majority of users plan to increase their use of teleconferencing over the next two years.

The typical user firm has six to ten establishments and between 500 to 1000 employees. The majority are manufacturers and subsidiaries of larger corporations. Company travel is mainly outside Ontario, but mainly within the same company. The majority of trips are made by air and the reasons for travel are about the same as the reasons for teleconferencing. Most user firms have taken steps to reduce the number of business trips they make.

Attitudes towards teleconferencing are generally favourable, although about one-third believe that teleconferencing can never replace a

face-to-face meeting. Users also tend to believe that exposure to teleconferencing, knowledge of teleconferencing and understanding will lead to greater use. Most users would also strongly argue that senior executive support is needed before companies will adopt teleconferencing.

Currently, about one-quarter of users are experiencing a decrease in their travel which they attribute to teleconferencing. Nonetheless, some 60% estimate that some future trips can be replaced by teleconferencing. Estimates of trips which can be replaced are very near to the experience of businesses currently replacing trips with teleconferencing. That is, some 20% to 25% of trips can probably be replaced by teleconferencing.

4/ COMPARING USERS AND NON-USERS

4.1/ Introduction

In the last chapter, users of teleconferencing were described. In this chapter, users are contrasted with non-users in an attempt to understand the factors associated with adoption of teleconferencing. As well, users are divided into two groups based on how often they use teleconferencing. Users who make the most use of teleconferencing are compared to those who use it less often. In turn, these two groups are compared to non-users. Significant differences between groups are identified by Chi-Square analyses (χ^2).

4.2/ Comparing Users and Non-Users

Users are defined as any company which uses one of the following five devices: Speakerphone, Conference 2000, Bell Conference Operator, private bridge, or CNCP Broadband. Companies using some device which we labelled as "visual support" without the use of an audio teleconferencing device were deemed non-users, as well as those companies which used no devices of any kind whatsoever.

4.2.1/ Corporate Demographics

User firms had the same number of establishments (6-10) as non-users (see Table 7 for details). The non-user category tended to have more one to two establishment firms (21% vs. 11%), while user firms tended to be highly represented in the 25 or more establishments category (27% vs. 16%). As well, users tend to have more employees across Canada than non-users (mid-range: 550 vs. 375; $\chi^2 = 12.82$, df = 4, p = 0.05).

Users and non-users are equally likely to be subsidiaries and come in about equal numbers from the manufacturing sector. As well, remaining firms tend to come from similar industrial sectors.

Thus, the major demographic difference between users and non-users is company size. User firms have more employees.

4.2.2/ Corporate Travel

Both users and non-users indicate similar amounts of travel inside and outside of Ontario. Travel destinations and the mode of travel are also similar. But, non-users travel mainly outside their organization (36%)' more often than users do (23%) ($\chi^2 = 5.94$, df = 2, p = 0.06).

For non-users, sales is a more dominant reason for travel than it is for users. That is, compared to other reasons for travel, sales is a more important purpose of travel for non-users. Aside from sales, other reasons for travelling tended to be selected much less frequently by non-users than by users of teleconferencing.

Another major difference between users and non-users is their concern with business trips. A larger proportion of user corporations (69%) than non-user corporations (54%) have taken steps to reduce their business trips ($\chi^2 = 5.62$, df = 1, p = 0.05).

Thus, travel habits appear to differentiate between users and non-users of teleconferencing. Teleconferencing tends to be favoured by companies that travel more to their own establishments and by companies which are making a definite attempt to reduce business travel. As well, teleconferencing is more likely to be adopted when travel is done for reasons other than just sales.

4.2.3/ Attitudes Toward Teleconferencing

As expected, a higher proportion of users (76%) are familiar with the term "teleconferencing" than non-users (59%) ($\chi^2 = 6.97$, df = 1, p = 0.01). But, a majority of non-users are still familiar with the term.

Users and non-users see the advantages and disadvantages of teleconferencing differently in absolute terms, although they order these advantages in about the same way. Both groups see the advantages of teleconferencing, in order of importance, as: saving time; saving money; improving efficiency; and allowing more staff to attend meetings.

Non-users cite these advantages about half as often as users (χ^2 = 20.06 & 8.51, df = 1, p = 0.01 -- save time and money, respectively).

Surprisingly, users cited disadvantages more often than non-users with one exception. Non-users tended to claim that teleconferencing was "not suitable for all companies". One could read this as well by saying they felt teleconferencing was not suitable for their company.

Non-users see the quality of voice transmission as more of a problem than users do (χ^2 = 11.28, df = 2, p = 0.01). But, users and non-users held similar views about the quality of teleconferencing in general. They also held similar views about the cost of video teleconferencing and the inability of teleconferencing to replace a face-to-face meeting. In all cases, non-users rated these things more negatively than users, but differences are not significant.

Non-users were less likely to believe that once someone knows the facts about teleconferencing they would use it (χ^2 = 9.80, df = 2, p = 0.01). Similarly, they were less likely to believe that understanding teleconferencing and exposure to its use would make people more likely to adopt teleconferencing (χ^2 = 6.31, df = 2, p = 0.05).

Non-users and users both see senior executive support as necessary to adopting teleconferencing. As well, both groups agree that "enjoying travel" is not a real barrier to adopting teleconferencing.

Users were twice as likely to strongly believe that teleconferencing is an important factor in reducing travel time and cost, but this difference is not statistically significant. As well, users (32%), are much more likely to believe that their company can make more use of teleconferencing than non-users (9%) (χ^2 = 10.83, df = 2, p = 0.01).

If the use of teleconferencing is to be encouraged among non-users, TEMP must show companies how it is suited to their needs. It must also show that voice quality is satisfactory. TEMP needs to present teleconferencing as a viable method for achieving sales while reducing travel time and cost, if this can be done. As well, non-sales uses of teleconferencing need to be clearly shown. Based on the responses of users, and assuming

non-users are similar, we would expect that exposure to teleconferencing and a better understanding of its ease and usefulness would foster more use among the current non-user group.

4.2.4/ Travel Substitution

Users and non-users differ dramatically on how they view the potential travel substitution of teleconferencing ($\chi^2 = 139.48$, df = 3, $p = 0.01$). Non-users seem to have a false certainty about the lack of usefulness of teleconferencing. While one-third of users say that they don't know how much travel can be replaced by teleconferencing, only 4% of non-users are unsure.

What non-users are sure of (90%), is that teleconferencing cannot replace any business trips. At the same time, only 9% of users say that no business trips can be replaced by teleconferencing. Thus, a typical non-user says that the percent of trips replaceable by teleconferencing is 0%, while the typical user believes that 20% to 25% of trips can be replaced.

Clearly, non-users do not see teleconferencing as a travel substitute. This perception needs to be overcome in order to make significant inroads with this group.

4.2.5/ Summary: Differences Between Users and Non-Users

User firms tend to have more employees than non-user firms. Users also do more within-company travel and are more likely to be trying to cut down on the number of their business trips. Users tend to view travel more broadly than non-users. That is, they tend to see more reasons for travelling than non-users do.

Non-users do not see teleconferencing as a travel substitute. Neither do they see it as a money nor a time saver. It is not surprising then, that non-users do not see teleconferencing as suitable for their company.

4.3/ Differences Between Frequent and Infrequent Users of Teleconferencing

4.3.1/ Definition of Frequent and Infrequent Users

It is obvious that some users will use teleconferencing more often than others. It would be useful to understand the factors leading to more frequent use. In order to do this, it was necessary to develop user classes.

Developing user classes was difficult. This was because users had different devices and might have used more than one device with differing frequency. As well, the distribution of frequencies of use was never normally distributed. Complications also arose because frequency had to be considered in relation to the size of a company and whether a respondent was talking about frequency of use in one location only or for the company as a whole.

Ultimately, a method of classifying users was developed based on frequency of use of four devices relative to a particular size of company and a particular locus of reporting (one location or whole company). Speakerphone was not used to identify frequent users because there was some uncertainty as to whether it was always being used for teleconferencing. The nature of other devices virtually ensured that they would be used for teleconferencing.

For the purposes of classification, users were divided into six comparison groups. The six groups were formed by jointly considering whether a company was small, medium, or large; and whether a company was reporting on one location or the company as whole. Within each of the six classes, we looked at the frequency distribution for the use of the Conference 2000, Bell Conference Operator, private bridge and CNCP Broadband. We identified the median for each of the 24 distributions (three company sizes X two loci of reporting X four devices = 24).

The decision rule for classifying companies was based on comparing a company's frequency of use to the median frequency of use for each of the four devices within its user class. Any company which used a device with above median frequency was classified as a frequent user. Any company which did not use at least one device with above median frequency was

classified as an infrequent user. The median was chosen as the cutting point because it is a simple yet robust estimate of central tendency.

As a result of this classification procedure, 97 user companies were classified as frequent users (44%) and 124 user companies (56%) were classified as infrequent users. Because of the care taken in classification, this system did not confound frequency of use with either company size or number of locations reported on (one location vs. all locations) or type of device used. That is, a frequent or infrequent user has been classified in comparison to companies of similar size and based on reports for a similar number of locations using the same device.

4.3.2/ Methods and Devices for Teleconferencing

With the exception of Speakerphones, frequent users were about twice as likely to use any device as infrequent users. That is, frequent users used significantly more methods and devices for teleconferencing (several χ^2 analyses, $p = 0.01$), as well as using them more often.

In contrast, visual support devices (excluding telecopiers, FaxCom, Telex) were equally likely to be used by frequent and infrequent users. But, frequent users did use communicating word processors slightly more often ($\chi^2 = 5.17$, $df = 1$, $p = .05$).

4.3.3/ Corporate Demographics

Frequent users tended to have more establishments (median = 11-24) than infrequent users (median = 6-10), but this difference was not significant. Frequent users were also more likely to be from the retail, insurance and financial sectors ($\chi^2 = 7.52$, $df = 1$, $p = 0.01$). In contrast, infrequent users were more likely to be manufacturers and subsidiaries (62%) than frequent users (49%) ($\chi^2 = 3.58$, $df = 1$, $p = 0.06$).

The proportion of frequent and infrequent users reporting particular departments in their company using teleconferencing was similar with one exception. Infrequent users were less likely to have data processing

departments which used teleconferencing (43% vs. 62%) ($\chi^2 = 7.21$, df = 1, p = 0.01).

Planning and problem-solving were equally likely to be applications of teleconferencing in frequent and infrequent user companies. Staff meetings were a slightly less likely application of teleconferencing in frequent user companies (but not significantly so) than infrequent ones, while problem-solving was an equally likely application. All other applications of teleconferencing were more likely for frequent users than infrequent, but these differences are not necessarily significant.

There is also some indication that infrequent users are less satisfied with teleconferencing than frequent users ($\chi^2 = 8.75$, df = 1, p = 0.01). While 66% of frequent users say they plan to increase the use of teleconferencing over the next two years, only 45% of infrequent users make the same claim. The majority of remaining users indicate that their use of teleconferencing will remain constant. As well, no frequent user indicated potential decline in use, while only 4% of infrequent users seemed so inclined.

Finally, note that there were no significant differences in organizational travel patterns between frequent and infrequent users of teleconferencing on any variable of interest. This is a strong indication that differences in the frequency of use of teleconferencing are not attributable to corporate travel patterns.

4.3.4/ Attitudes Toward Teleconferencing

Frequent and infrequent users are equally familiar with the term "teleconferencing". But, the two groups differ in what they see as the merits of teleconferencing. Infrequent users are less likely to see teleconferencing as a means of saving money (30% vs. 45%) ($\chi^2 = 25.00$, df = 1, p = 0.05). But, infrequent users are slightly more inclined to see teleconferencing as a device for increasing the number of staff attending meetings. In terms of disadvantages, infrequent users are slightly more likely (15% vs. 10%) to see teleconferencing as expensive.

Both frequent and infrequent users have similar views on the quality of voice transmission, the quality of teleconferencing in general, the ability of teleconferencing to substitute for face-to-face meetings, and the costliness of video teleconferencing. As well, the two groups hold similar views on the importance of senior executive support, the unimportance of travel enjoyment as a barrier to teleconferencing, the importance of teleconferencing to travel time or cost savings and the possibility of their firm making more use of teleconferencing.

Frequent and infrequent users did not differ significantly in how they thought people would respond to knowing the facts about teleconferencing or how people would respond to more knowledge and exposure.

Thus, there is little attitudinal difference between frequent and infrequent users. There is some small indication, however, that infrequent users perceive teleconferencing as expensive. This may reflect differences in corporate wealth or expectations, as well as differences in implementation.

4.3.5/ Travel Substitution

Frequent users of teleconferencing more often tend to indicate that teleconferencing has decreased their business travel than infrequent users (31% vs. 19%) ($\chi^2 = 3.32$, df = 1, $p = 0.08$). As well, estimates of the amount of decrease in business travel achieved are slightly larger for frequent users (22%) than infrequent users (16%). The difference continues when examining the proportion of business travel that users believe can ultimately be replaced by teleconferencing. Frequent users believe that more trips can be replaced (28%) than infrequent users (20%).

Thus, small differences in achieved or expected substitutability are observed between frequent and infrequent users. This may reflect their real expectations based on the level of teleconferencing use that they currently have. Alternatively, the perceived travel substitution may be affected by how costly they view teleconferencing to be.

4.3.6/ Summary of Differences Between Frequent and Infrequent Users of Teleconferencing

Frequent users of teleconferencing are defined as those who use any of the four major audio teleconferencing devices with above median frequency relative to their user class. All other users are classified as infrequent.

Despite precautions in classifying, infrequent users tended to come from companies with fewer establishments, but this difference was not significant.

Frequent and infrequent users differ in their patterns of use of teleconferencing. Frequent users use more devices and use them more often. Data processing departments are also more common users in frequent user companies. This may reflect undetected sectoral differences between frequent and infrequent users.

Frequent users seem more satisfied with their teleconferencing. This is reflected in their behavioural intention. That is, frequent users are more likely to intend to increase their usage of teleconferencing than infrequent users. This is similarly reflected in the finding that frequent users see more time and cost savings arising from the use of teleconferencing. Differences in intention are not likely due to usage "saturation" for infrequent user companies, since they do not differ from frequent users in their judgments about whether their company could make more use of teleconferencing.

4.4/ Differences Between High Potential and Low Potential Non-Users

An attempt was made to define two groups of non-users. The groups were those that had a high potential for adopting teleconferencing and those which had a low potential for adopting teleconferencing. The two groups were distinguished on logical grounds largely deriving from the research literature.

High potential non-users were those who:

- intended to use teleconferencing in the next two years; or
- planned to cut travel costs; or
- had a high travel budget (over $500 000); or
- had many corporate establishments (50 or more).

This resulted in dividing non-users into two groups, with about two-thirds classified as high potential and about one-third classified as low potential.

The results of this classification were disappointing. Differences between the non-user groups were found, but virtually every difference could be attributed to the criteria for classification. While the logical criteria for classification were reasonable; there seemed little point in making the differentiation or reporting the analyses.

It was concluded that it is meaningful to deal with these logical groupings for marketing purposes, but there is little reason to separate these groups and report on findings for research purposes.

5/ MARKETING

5.1/ Demand for Information About Teleconferencing

Some 63% of all respondents indicated that they were interested in receiving more information about teleconferencing from TEMP. Roughly three-quarters of users would like more information; and slightly more than half of non-users would like more information from TEMP. Suffice it to say, that with this much interest shown, the likelihood of increasing the use of teleconferencing in Ontario is high.

5.2/ Marketing Directions

Logically, there are two primary audiences for marketing purposes -- users and non-users. As well, different approaches may be called for in order to increase usage of teleconferencing among frequent and infrequent users.

Regardless of target, however, it is clear that senior executives must be convinced of the usefulness of teleconferencing. All groups agreed that senior executive support is needed before corporations will use teleconferencing (see Table 14). Thus, any successful marketing thrust should include senior executives among its targets.

5.2.1/ Marketing to Non-Users

A marketing thrust directed at non-users is still difficult to pinpoint. The superficial differences between users and non-users in this study are not sufficient to satisfactorily differentiate a unique marketing approach for non-users. More in-depth comparisons of users and non-users are needed. Despite this, the data suggest some directions.

Teleconferencing as a Cost-Saver -- Non-users are not as concerned with reducing business trips as users (see Table 10). As well, they are less likely to see teleconferencing as a way of reducing travel expenditures than users (see Table 12). Thus, marketing needs to demonstrate that corporate profits can be improved by reducing travel costs. As well, there must be some evidence that cutting travel will not cut sales. Then, a case can be made for teleconferencing as a cheap and effective substitute for travel.

Teleconferencing as a Sales Technique -- Non-users see travel primarily as a vehicle for sales (see Table 9). Other purposes for travel are recognized, but are less often cited as reasons for travel. Thus, TEMP must look at the use of teleconferencing as a sales technique -- perhaps by talking to users in-depth. Once teleconferencing methods have been established and a clear case can be made for teleconferencing as a cost-effective sales technique, TEMP should present the evidence to non-users and try to show them how it would work for their company.

Teleconferencing Between Companies -- Non-users do more travel outside their organization than users (Table 8). Nonetheless, users do travel substantially outside their organization. What remains unclear, however, is the extent to which users consider teleconferencing a method of communication between organizations. This requires further clarification.

It seems clear that teleconferencing can be marketed as a within-company communication method. To improve its position with non-users, however, it seems advisable to show its usefulness for communications between companies. Specifically, it must be a demonstrably adequate replacement for applications now done through travel if it is to prove a satisfactory source of energy savings.

Summary -- Non-users should be convinced that their travel expenditures can be reduced and that they should take steps to reduce the number of trips that they make. The marketing thrust should then emphasize teleconferencing as a sales technique capable of replacing business trips with tremendous savings in time and cost to the user organization. As well, any marketing thrust should make it clear that teleconferencing is suitable for use between organizations -- not just for communication within an organization.

5.2.2/ Marketing to Users

The number of companies requesting more information about teleconferencing indicates a substantial interest among users, both frequent and infrequent. Providing the requested information certainly should constitute the initial marketing effort.

Teleconferencing as a Time and Money Saver -- Frequent users more often consider teleconferencing a good way to save time and money than infrequent users (see Table 12). Perhaps, this difference is due to different methods of using teleconferencing devices, with the frequent user finding many more possibilities. Detailed investigation of usage differences such as types of meetings or how decisions are made to forego travel would help point out these differences. The findings could serve as a basis for informing users how best to use their teleconferencing resources.

Versatility of Teleconferencing -- Frequent users tend to use more devices than infrequent users. This suggests that a company may add devices as new applications are thought of. As well, teleconferencing devices may be differentially appropriate for different applications. If the relationship between teleconferencing devices/methods and travel substitution opportunities is better understood, it offers two things:

- it suggests which type of device is best used for certain types of application, thus improving teleconferencing efficiency, and

- it may encourage infrequent users to use their devices better or to adopt additional devices to capitalize on newly perceived opportunities.

Summary -- Marketing to users should emphasize making the best use of teleconferencing devices. If information is available on how this can be done, it could encourage infrequent users to adopt more methods and foster greater use of teleconferencing. As well, a better match of device and travel substitution opportunity could help in presenting teleconferencing as a method for saving time and money.

APPENDIX A/ DEFINITION OF TERMS

TELECONFERENCING:	Meetings or information exchange involving at least three persons between two geographically separated places in which electronically transmitted voice and/or images are the means of communication.
SPEAKERPHONE:	"Hands free" telephone using a loudspeaker and a microphone unit rather than a telephone handset, which thereby enables more than one person to use it simultaneously.
CONFERENCE 2000:	An addition to a regular telephone which allows its use by up to 20 persons simultaneously through a speaker/microphone unit.
BELL CONFERENCE OPERATOR:	A special Bell Canada operator arranges 3 or more calls to be linked simultaneously.
PRIVATE BRIDGE:	A switchboard device which links more than 2 calls simultaneously without using a Bell Canada operator.
CNCP BROADBAND:	A data network for exclusive use of a subscriber which simultaneously links multiple callers.
COMPUTER CONFERENCING or ELECTRONIC MAIL or TELEX:	Written communication transmitted by a computer hook-up either within an organization or outside.

COMMUNICATING WORD PROCESSORS:	Word processors connected across geographically separated locations, allowing sharing of input.
SLOW-SCAN VIDEO (FREEZE-FRAME):	A camera focussed on still images can transport the picture via telephone lines to a distant television monitor.
TELECOPIER (FAX COM):	A photocopying machine with the facility to send copied images by telephone lines to another such machine.
ELECTRONIC GRAPHICS:	A variety of electronic methods for sending images written or drawn on one surface to another geographically separated screen, via telephone lines.
FULL-MOTION (REAL-TIME) VIDEO:	Audio and video images produced by a live television hook-up between two points, unlike slow-scan or freeze-frame, the transmission is life-like.

APPENDIX B/ SPECIAL INTERVIEWER INSTRUCTIONS

B.1/ The Respondent

The ideal respondent will have a good general knowledge of both the company's telecommunications and business travel.

In some cases (larger companies), these responsibilities will rest with two distinct offices. In these instances, we will speak first of all, with that person knowing about telecommunications, as that issue is our main focus and represents the bulk of our questions. With this person you proceed through the questionnaire to Question 15-b) and then skip to the last page.

With the person responding about travel, you will skip from the screener to Question 16 and continue to Question 22 and end that part of the survey.

If you must speak with two persons, make sure to ask for the name and telephone number of the second person after the first section is complete. Copy that name on the space provided on the front page and re-use the secondary introduction.

Have your definitions at hand in case questions arise about the terms used. If any more detailed questions arise, they may be referred to the Task Force on Teleconferencing at 248-3567 (Ms. Wendy Cukier (SOO-KE-R)).

This same phone number may be used if any respondent questions the sponsorship of this survey.

B.2/ Assignment and Instructions

Purpose: To assess awareness and use of teleconferencing.

Whom to Interview: See "Special Interviewer Instructions."

How to Interview:

Index cards have been attached to the screener. These provide two bits of information:
1/ the name of the listed company, and
2/ the 'phone number.

The screener is complex and requires careful attention. It is intended to accommodate not only the usual screening process but also up to four attempts to reach up to two different respondents (SEE SPECIAL INTERVIEW INSTRUCTIONS).

Completions:

The interview has been timed at 10 minutes. We expect approximately 8 completions in a 7-hour day of interviewing.

When to Interview:

Weekdays, during normal working hours.

Deadline:

All interviews should be completed on September 13th, and in our office on September 15th.

Detailed Instructions:
Screening

1/ Follow the preliminary introduction adding the name of the company as indicated on the green card.

2/ If company not at this number, record above opposite "COMPANY NOT AT THIS NUMBER" and terminate.

3/ When appropriate respondent is reached, follow the secondary introduction.

4/ In response to this introduction you will receive one of three possible replies. These are:

a/ The person is qualified to answer questions on these topics. You will then check the box opposite YES and continue straight through the questionnaire.

b/ The person is qualified to answer only questions on telecommunications. You will then check the box opposite "Telecommunications Only" and ask all questions except Questions 16 to 22. After completing the last page you will return to the screener and ask for the name and to be referred to the person most appropriate to answer questions on travel. Write in the name, title and phone number (if needed) and repeat the secondary introduction with the "travel" person, eliminating the words "telecommunications and".

Complete questions 16 to 22 only.

c/ The person is qualified to answer only questions on travel. You will then check the box opposite "Travel Only" and proceed to ask questions 16 to 22 only. With these completed you will ask for the name and to be transferred to the person most appropriate to answer questions on telecommunications. Copy down this name, title and phone number (if needed), and repeat the secondary introduction with this person, eliminating the words "and business travel". Complete questions 1 to 15 and 23.

5/ We have budgeted for up to 4 separate contacts to be made. A 5th contact will be accepted only if you are being directly transferred to another person.

6/ Wide margins are available on the screener to record any supplementary information.

B.3/ The Questionnaire

On the whole, this questionnaire is not difficult and will flow easily. However, certain questions require particular attention.

Q.5: All respondents will be read our definition of teleconferencing.

Q.6: The response given in 6-a is to be repeated in 6-b as well as in Q.9.

The dialogue for question 6-b will differ for each of three different kinds of teleconferencing methods or equipment. As shown in the response grid at the bottom of page 2, "Audio" includes Speakerphones to the first "other" category, and similarly for Visual Support and Full Motion Real-Time Video.

Q.6-c is asked after Q.6-b is completed, and only for those methods or equipment used.

If none of these are used you will skip to Q.10.

Q.7,8,9: To be asked of users of any teleconferencing methods or equipment.

Q.14,15: These questions are about travel but we are asking them of the "teleconference" person if two persons are involved. In other words, we want this person's perspective or opinion based on their knowledge of business travel. Particularly in Q.15-a and 15-b, we expect estimates and we would like all interviewers to remind any respondents who answer "Don't know" that we are only asking for their best estimates. We have allowed, however, for a "Don't know."

Q.16: In these questions we are interested in the trips made by people either arriving in Ontario or leaving from Ontario. In Q.19-b, for each of the connecting points you will have one Ontario place name and one place either in Ontario or outside Ontario.

Q.22: The blank which indicates "SPECIFY AS ABOVE" relates to the response in Q.16. You will read out the chosen response option in Q.16.

PLEASE NOTE: -- Check each questionnaire carefully before returning it. Make sure all sections are completed.

APPENDIX C/ THE QUESTIONNAIRE

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SIC CODES 8-[ ][ ] 10-[ ][ ] 12-[ ][ ]
SALES(Millions) 14-[ ][ ][ ]
EMPL HERE 18-[ ][ ][ ][ ]
TOT EMPL 22-[ ][ ][ ][ ]
MFG YES(1) NO (2) 27-[ ]
SUB YES(1) NO (2) 28-[ ]
CNTY 29-[ ][ ]

CALL NO.: / DATE:	1	2	3	4
NOT IN SERVICE/RECORDING	32-1	33-1	34-1	35-1
NO RING	2	2	2	2
BUSY-- 1	3	3	3	3
BUSY-- 2	4	4	4	4
BUSY-- 3	5	5	5	5
NO ANSWER	6	6	6	6
COMPANY NOT AT THIS NUMBER	7	7	7	7

PRELIMINARY INTRODUCTION:

Hello, I'm conducting a survey, on behalf of the Ontario Ministry Of Transportation And Communications regarding telecommunications and company travel. May I speak with the most senior person responsible for corporate administration of these functions for _____ (NAME LISTED COMPANY).

IF LISTED COMPANY NOT AT THIS NUMBER--TERMINATE AND RECORD ON RECORD OF CALL. IF APPROPRIATE RESPONDENT NOT AVAILABLE--RECORD ON RECORD OF CALL AND DETERMINE TIME FOR CALLBACK.

SECONDARY INTRODUCTION:

Hello, I'm _____ of Canadian Facts, an independent survey research company. We are conducting a study on behalf of the Ministry Of Transportation And Communications, regarding telecommunications and business travel. Am I speaking with the most appropriate person to answer questions for your company on these topics?

NO..☐

RECORD ON RECORD OF CALL..ASK TO BE REFERRED TO THE APPROPRIATE PERSON. REPEAT SECONDARY INTRODUCTION.

FOLLOW THE ABOVE DIRECTIONS FOR A THIRD OR FOURTH CALL, IF NECESSARY.

IF APPROPRIATE RESPONDENT NOT AVAILABLE--RECORD ON RECORD OF CALL AND DETERMINE TIME FOR CALLBACK.

YES..☐ CONTINUE

Telecommunications Only ...☐
Skip Q.16 To 22
"TRAVEL" person
NAME_____TITLE_____PHONE_____

Travel Only.....☐
Do. Q.16 To 22
"TELECOM." Person
NAME_____TITLE_____ PHONE_____

CALL NO:	1	2	3	4
INITIAL REFUSAL	36-1	37-1	38-1	39-1
CALL BACK LATER	2	2	2	2
RESPONDENT NOT AVAILABLE/REFUSED THIS CALL	3	3	3	3
RESPONDENT NOT QUALIFIED	4	4	4	4
RESPONDENT BROKE OFF DURING INTERVIEW	5	5	5	5
RESPONDENT REFUSED TO BE INTERVIEWED AT ALL	6	6	6	6
INTERVIEW COMPLETED	7	7	7	7

IF REFUSED TO BE INTERVIEWED AT ALL, SPECIFY REASONS BELOW:

_____

_____

_____

APPOINTMENT MADE WITH RESPONDENT:

DATE:_____

TIME:_____

INTERVIEWER'S NAME:_____

Before we begin talking about telecommunications and travel, I would like to collect some background information about your company.

1. First of all, what is the approximate number of employees working for your company, at this address?

Less Than 25	40-1
25 To 49	2
50 To 99	3
100 To 249	4
250 To 499	5
500 To 999	6
1000 To 1999	7
2000 Or More	8

2. How many different establishments does your company have? By different establishments, I mean separate and unique addresses across Canada. Would it be...(READ LIST)

2	41-1
3 To 5	2
6 To 10	3
11 To 24	4
25 To 49	5
50 Or More	6

3. What is the approximate number of people employed in your company including all of your locations across Canada? Would that be...(READ LIST)

Less Than 250	42-1
250 To 500	2
500 To 1000	3
1000 To 2000	4
2000 To 5000	5
5000 To 50,000	6
50,000 Or More	7

4. Which of the following best describes the main functions of your organization <u>at this location</u>? (CIRCLE ALL THAT APPLY) (READ LIST)

Headquarters	43-1
Factory Or Plant	44-1
Research Laboratory	45-1
Sales Office/Branch	46-1
Warehouse	47-1
OTHER(Specify)	48-1
_____	49-1
_____	50-1
	51-1
	52-1

These next questions deal with your company's use of telecommunications.

5. Are you familiar with the term teleconferencing?

YES..... 53-1
NO..... 2

BY TELECONFERENCING we mean:

Meetings or information exchange involving at least three persons between two geographically separated places in which electronically transmitted voice and/or images are the means of communication.

6-a) This question concerns the type of teleconferencing methods or equipment owned or used by your company. Are you able to report for this location only or do you have knowledge of all your locations?

This Location Only..... 54-1

All Locations..... 2

-b) Thinking then of_____(SPECIFY APPROPRIATE RESPONSE AS ABOVE)

which, if any, of the following methods or equipment does your company use or own for the purposes of exchanges between three or more participants?

FOR AUDIO METHODS

Does your company use any of the following methods and equipment for audio contact, such as _____(SPECIFY EACH ITEM AND RECORD UNDER -b)) Are there any other methods for audio teleconferencing? (RECORD OPPOSITE "OTHER")

FOR VISUAL SUPPORT

Does your company use any of the following methods and equipment for visual support of teleconferencing, such as _____(SPECIFY EACH ITEM AND RECORD UNDER -b)). Are there any other methods for visual support of teleconferencing? (RECORD OPPOSITE "OTHER").

FOR FULL MOTION REAL TIME VIDEO

Do you have or make use of live video equipment for teleconferencing? (RECORD BELOW). Are there any other methods used for teleconferencing?

-c) AFTER ALL ITEMS ASKED ABOUT IN -b) ASK FOR EACH ITEM USED...

Would you say that your company uses_____(SPECIFY ITEM USED) for teleconferencing about...(READ LIST AND RECORD BELOW UNDER -c) OPPOSITE APPROPRIATE ITEM)

Less Than Once A Month..... 1

1 To 3 Times A Month..... 2

1 To 4 Times A Week..... 3

Daily..... 4

METHODS/EQUIPMENT	-b)		-c)			
AUDIO	Don't Use/	Use	Less Than 1 Per Mo.	1 To 3 Per Mo.	1 To 4 Per Wk.	Daily
Speakerphones..... 55-0		☐	1	2	3	4
A Conference 2000..... 56-0		☐	1	2	3	4
The Bell Conference Operator... 57-0		☐	1	2	3	4
A Private Bridge..... 58-0		☐	1	2	3	4
The CN/CP Broad Band..... 59-0		☐	1	2	3	4
Other (SPECIFY)_____ 60-0		☐	1	2	3	4
VISUAL SUPPORT						
Computer Conferencing Or Electronic Mail..... 61-0		☐	1	2	3	4
Communicating Word Processors.. 62-0		☐	1	2	3	4
Slow Scan Video..... 63-0		☐	1	2	3	4
Telecopier Or Fax Com..... 64-0		☐	1	2	3	4
Electronic Graphics..... 65-0		☐	1	2	3	4
Telex..... 66-0		☐	1	2	3	4
Other (SPECIFY)_____ 67-0		☐	1	2	3	4
Full Motion Real Time Video.... 68-0		☐	1	2	3	4
Other (SPECIFY)_____ 69-0		☐	1	2	3	4

(IF NONE OF THESE OWNED OR USED SKIP TO Q.10)

(IF ANY OF ABOVE METHODS OR EQUIPMENT USED THEN ASK Q.7, 8, 9)

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7. Which of the following departments make use of this equipment or method? (READ LIST) (CIRCLE AS MANY AS APPLY). Are there any other departments? (RECORD OPPOSITE OTHER).

Administration/Finance.....8-1
Personnel.....9-1
Marketing/Sales.....10-1
Production.....11-1
Engineering Research.....12-1
Data Processing.....13-1
Other (SPECIFY)_____14-1
_____15-1

8. For which of the following purposes or applications has this equipment or method been used? (READ LIST) (CIRCLE AS MANY AS APPLY). Are there any other purposes (RECORD OPPOSITE OTHER AND SPECIFY)

Committee Meetings..... 16-1
Staff Meetings..... 17-1
Information Exchange..... 18-1
Training..... 19-1
Progress Reviews..... 20-1
Problem Solving..... 21-1
Inspection/Supervision..... 22-1
Planning..... 23-1
Other(SPECIFY)_____ 24-1
_____ 25-1

9. In the next 2 years do you expect your company's use of teleconferencing (SPECIFY EITHER "At This Location Only" OR "At All Locations" as in Q.6-a) to .....?

Increase..... 26-1
Decrease..... 2
Stay The Same..... 3

ASK IF NO TELECONFERENCING IN Q.6

10. Do you have reason to believe that your company will make use of this equipment or method, for the purposes of teleconferencing in the next two years?

YES.....27-1
NO..... 2

ASK EVERYONE

11. What, if any, are the major disadvantages of teleconferencing?

_____ 28-
_____ 29-
_____ 30-
_____ 31-

12. What, if any, are the major advantages, of teleconferencing?

_____ 32-
_____ 33-
_____ 34-
_____ 35-

13. I am now going to read a few statements which have been made about teleconferencing. For each statement please tell me how accurately each statement reflects your views on teleconferencing by selecting a number from "1 to 10". A "10" means that you consider the statement to be very accurate and a "1" that you consider the statement not at all an accurate reflection of your views. Many statements will be somewhere in between 1 and 10.

	Not At All Accurate									Very Accurate
With Today's Modern Equipment Voice Quality Isn't a Problem When Using Telephone Lines For Meetings.....36-	1	2	3	4	5	6	7	8	9	10
Audio Teleconferencing Can Never Replace A Face-To-Face Meeting 37-	1	2	3	4	5	6	7	8	9	10
Before Our Company Would Use Teleconferencing, The Quality Would Have To Improve.....38-	1	2	3	4	5	6	7	8	9	10
Once Someone Knows The Facts About Teleconferencing They Will Make Use Of It..... 39-	1	2	3	4	5	6	7	8	9	10
With The Cost Of Video Teleconferencing You Might As Well Fly There..... 40-	1	2	3	4	5	6	7	8	9	10
The Use Of Teleconferencing Needs Senior Executive Support Before Companies Will Use It.. 41-	1	2	3	4	5	6	7	8	9	10
Our Company Could Make More Use Of Teleconferencing..... 42-	1	2	3	4	5	6	7	8	9	10
More People Would Make Use Of Teleconferencing If They Didn't Enjoy Travelling So Much.....43-	1	2	3	4	5	6	7	8	9	10
One Of The Most Important Factors In Reducing Travel Costs And Time Is Teleconferencing.....44-	1	2	3	4	5	6	7	8	9	10
Once People Gain An Understanding And Some Exposure To Teleconferencing They Will Start To Use It.....45-	1	2	3	4	5	6	7	8	9	10

IF TELECONFERENCE USER ASK Q.14 And 15

14. From your knowledge of your company's business travel would you say that the use of teleconferencing has caused business travel to...

Decrease.....46-1
Increase..... 2 SKIP TO QUESTION 15-b)
Or It Has Had No Effect... 3
DON'T KNOW..... 4

15-a) Just based on what you know about teleconferencing, what is your best estimate, in percentage terms, of the number of business trips which have been replaced by teleconferencing in the past year?

Percent Of Trips Replaced ___ 47- Don't Know ☐

-b) Thinking now of the future, what is your best estimate of the percent of trips which could be replaced by teleconferencing in the next five years?

Percent Of Future Trips Replaced ___ 49- Don't Know ☐

IF THE RESPONDENT HAS INDICATED DURING THE SCREENING THAT HE/SHE COULD ONLY ANSWER QUESTIONS ON TELECOMMUNICATIONS, SKIP TO QUESTION 23.

TRAVEL QUESTIONS

This set of questions are about your company's travel. By travel, we are referring to business trips involving day or overnight travel which take the employee at least 5 miles outside of their local area.

16. Are you able to report on your company's business travel at this location only, or do you have knowledge of your company's travel from all of your company's locations?

This Location Only.....51-1
All Locations..... 2

For the next few questions about your company's travel, please answer then for _____(SPECIFY AS ABOVE)

17. Would you say your company's business travel is mainly within Ontario or mainly outside Ontario?

MAINLY WITHIN ONTARIO.....52-1
MAINLY OUTSIDE ONTARIO..... 2
BOTH EQUALLY..... 3

18. And do your company's business trips involve travel that is mainly within your own company, that is between different locations of your company, or is this travel mainly outside your organization?

MAINLY WITHIN ORGANIZATION...53-1
MAINLY OUTSIDE ORGANIZATION.. 2
BOTH EQUALLY..... 3

7-3

19-a) Does your company make trips which either start or end in Ontario?

NO.....8- 1 SKIP TO Q. 20

YES..... 2 CONTINUE

-b) What are the three major connecting points involved in these trips which either start or end in Ontario- that is, up to three of the most common origins and destinations for business trips starting or ending in Ontario. (RECORD BELOW UNDER -b).

-c) (FOR EACH TRIP) What is the usual mode of travel between these points? (RECORD UNDER -c)

9/10-
11/12-
13/14-
15/16-
17/18-
19/20-
21-
22-
23-

	-b) TRAVEL POINTS		-c) MODE
1.	_____	and _____	_____
2.	_____	and _____	_____
3.	_____	and _____	_____

20. Which of the following categories are major reasons for business travel at your organization (READ LIST)? Are there any other reasons? (RECORD AND SPECIFY OPPOSITE OTHER).

Sales.....	24-1	Inspection/Supervision.....	29-1
Problem Solving...	25-1	Information Exchange.....	30-1
Training.....	26-1	Planning.....	31-1
Progress Review...	27-1	Staff Meetings.....	32-1
Committee Meetings	28-1	OTHER(Specify).....	33-1

21-a) Has your company recently taken steps to reduce the number of business trips?

YES ..... 34-1 CONTINUE

NO ..... 2 GO TO 22-c)

IF YES

-b) What specific steps have been taken?

_____ 35/36-

_____

_____ 37/38-

_____ 39/40

SKIP TO Q. 22

IF NO

-c) Do you anticipate any such policy changes in the future?

YES.....41-1

NO..... 2

22. From your knowledge of business travel, which of the following categories best represents the cost of trips on an annual basis taken by employees at _____(SPECIFY AS ABOVE)? (READ LIST)

Under $100,000.....	42-1
$100,000 To $500,000...	2
$500,000 To $1 Million	3
$1 To $2 Million.....	4
Over $2 Million.....	5
DON'T KNOW.....	6

IF THIS RESPONDENT IS ANSWERING ABOUT TRAVEL ONLY END THE SURVEY HERE.

IF TELECOMMUNICATIONS SECTION NOT COMPLETED, ASK TO SPEAK WITH MOST SENIOR PERSON RESPONSIBLE FOR TELECOMMUNICATIONS. THEN BEGIN AT FIRST SECTION.

IF ONLY ONE RESPONDENT THEN CONTINUE.

In 1980, a teleconferencing task force was formed by the Ontario Government to promote the use of teleconferencing within the province as a means of reducing business travel. The task force provides free information and consultation on teleconferencing.

23-a) Which, if any, of the following services would be of interest to you? (READ LIST)

	YES
More Information.....	☐
A Slide Show.....	☐
A Presentation/Demonstration...	☐
Consultation.....	☐
Assistance In Establishing Teleconferencing In Your Organization.....	☐
NONE OF THE ABOVE	☐ GO TO QUESTION 23-c)

IF YES TO ANY OF THE ABOVE

-b) Your request will be passed on to the task force. May I get your name, address and telephone number?

YES ..... ☐
NAME
TITLE:
ADDRESS:
TELEPHONE NO.

COPY COMPANY NAME FROM CARD

NO .....

ASK EVERYBODY

-c) The task force will be assessing the results of this survey of 300 large organizations such as yours. In addition, they would like to obtain individual results to facilitate further communication with individual organizations.

May we pass your name and results of this survey on to the task force?

NO..... ☐ Thank you very much for your help in this survey. The results of this survey will remain confidential, and any future contact from the government on teleconferencing is completely independent of this survey.

YES..... ☐ GET NAME IF NEEDED
NAME:
TITLE:
ADDRESS:
TELEPHONE NO:

COPY COMPANY NAME FROM CARD

Thank you for your help in this survey.

APPENDIX D/ TABLES

Table 1/ Exclusions and Non-Completions

TOTAL TELEPHONE NUMBERS	546	
REASONS FOR EXCLUSION		
- Not in service	8	
- Line busy	3	
- No answer	14	
- Company not at this number	7	
TOTAL EXCLUDED FROM FRAME	32	
		Percent
TOTAL POTENTIAL COMPLETIONS	514	100%
REASONS FOR NON-COMPLETIONS		
- Initial refusal	24	5
- Respondent not available	90	18
- Respondent not qualified	16	3
- Respondent broke off during interview	5	1
- Respondent refused	72	14
COMPLETIONS	307	60

Table 2/ Teleconferencing Use and Equipment

Device/Method	Total Sample (%) (N=307)	Users (%) (N=221)	Total Sample Using This Device Only (%)
Speakerphone	54	75	25
Bell Conference Operator	38	53	13
Private Bridge	19	27	6
Conference 2000	10	15	2
CNCP Broadband	4	6	0
Computer Conferencing/ Electronic Mail*	13	16	-
Any of the Above Devices	72	100	-

* Another device is always used.

Table 3/ Median Frequency[1] of Use of Teleconferencing Devices

Reporting for:	ONE LOCATION			MANY LOCATIONS		
Establishment Size:	Small	Medium	Large	Small	Medium	Large
Speakerphone	M[2]	D	W	M	W	W
Bell Conference Operator	Y[2]	Y	M	Y[2]	Y	M
Private Bridge	Y[2]	M[2]	W[2]	W[2]	W	W
Conference 2000	Y[2]	D[2]	W[2]	Y[2]	W[2]	M[2]

[1] D = Daily
W = Weekly: 1-4 times per week
M = Monthly: 1-3 per month
Y = Yearly: Less than one per month

[2] Based on less than ten respondents

Table 4/ Departments Using Teleconferencing

Department	All Users (%)	Frequent Users (%)	Infrequent Users (%)
Administrative Finance	92	92	93
Marketing/Sales	77	76	78
Personnel	52	55	49
Data Processing	51	62	43
Production	47	49	45
Engineering Research	42	47	38

Table 5/ Applications of Teleconferencing

Application	All Users (%)	Frequent Users (%)	Infrequent Users (%)
Information exchange	92	96	89
Problem solving	66	66	66
Planning	58	59	57
Progress reviews	45	49	42
Committee meetings	43	53	35
Staff meetings	42	37	45
Inspection/supervision	21	25	19
Training	21	28	15
All others	5	6	4

Table 6/ Use of Teleconferencing in the Next Two Years

Category	Increase (%)	Stay the Same (%)	Decrease (%)	Not Stated (%)
Users	54	41	2	2
Frequent	66	32	0	2
Infrequent	45	48	4	2
Non-Users	20	70	-	10

Table 7/ Summary Profile of Respondent Groups

Characteristic	Total	Users	MEDIAN CATEGORIES		
			Non-Users	Frequent Users	Infrequent Users
Number of Establishments	6-10	6-10	6-10	11-24	6-10
No. of Employees Across Canada*	400-700	400-700	250-500	700-1000	400-700
Estimated Annual Sales* ($ Millions)	50-99	50-99	0-49	50-99	50-99
Annual Travel Budget ($ Thousands)	0-100	100-500	0-100	100-500	100-500

*Uses Dun & Bradstreet information.

Table 8/ Business Travel Patterns

Pattern	Total Respondents (%)	Total Users (%)	Frequent Users (%)	Infrequent Users (%)	Non-Users (%)
Mainly within organization	54	57	52	61	47
Mainly outside organization	27	23	21	25	36
Both equally	17	19	26	13	14
Don't know	1	1	2	1	1
Mainly within Ontario	18	16	14	18	23
Mainly outside Ontario	54	56	51	61	48
Both equally	26	26	33	21	27
Don't know	1	1	2	1	0

Table 9/ Reasons for Business Travel

Reason	Total Respon-dents (%)	Total Users (%)	Frequent Users (%)	Infrequent Users (%)	Non-Users (%)
Sales	62	62	61	63	62
Problem solving	61	64	69	60	55
Training	31	33	31	35	27
Progress review	48	51	46	54	42
Committee meeting	47	50	56	45	41
Inspection/supervision	43	46	51	43	35
Information exchange	62	64	62	66	55
Planning	59	62	64	61	51
Staff meetings	45	48	42	52	37
All other	7	6	3	9	8
Don't Know	2	3	2	3	1

Table 10/ Percentage of Companies Taking Steps to Reduce Business Travel

Steps to Reduce Travel	Total Respon-dents (%)	Total Users (%)	Frequent Users (%)	Infrequent Users (%)	Non-Users (%)
Have taken steps	65	69	67	70	54
Have not	34	29	31	28	44
Not stated	1	2	2	2	0
Steps Taken:					
Only take necessary trips	30	31	31	31	28
Tighter control/ cutbacks	32	35	29	39	22
Combine trips	8	9	8	9	7
Reduce number of travellers to one point	8	7	8	7	9
Use other type of communication	32	33	40	28	30
Reduce number of meetings	3	2	2	2	4

Table 11/ Familiarity with the Term "Teleconferencing"

	Familiar (%)	Not Familiar (%)
Users	76	24
Frequent	76	24
Infrequent	76	24
Non-Users	60	40

Table 12/ Advantages of Teleconferencing

Advantage	Total Respondents (%)	Total Users (%)	Frequent Users (%)	Infrequent Users (%)	Non-Users (%)
Speed/saves time	52	61	67	56	31
Cost/saves money	32	37	45	30	19
General efficiency	16	18	18	18	11
More staff attend same meeting	16	18	14	20	11

Table 13/ Disadvantages of Teleconferencing

Disadvantage	Total Respondents (%)	Total Users (%)	Frequent Users (%)	Infrequent Users (%)	Non-Users (%)
None	30	35	39	32	16
Lose face-to-face contact	14	17	16	19	5
Cost/Expensive	13	13	10	15	14
Equipment problems	6	7	7	7	1
Arranging schedule	4	5	6	5	1
Security/ No privacy	2	2	2	2	1
Not suitable for all companies	4	0	0	0	13

Table 14/ Attitudes Towards Teleconferencing -- Median Ratings
(1 = not at all accurate; 10 = very accurate)

Attitude Statement	Total Respondents	Users	Frequent Users	Infrequent Users	Non-Users
With today's modern equipment, voice quality isn't a problem when using telephone lines.	7.15	7.13	6.95	7.22	7.22
Audio teleconferencing can never replace a face-to-face meeting.	7.18	7.13	6.92	7.24	7.34
Before our company would use teleconferencing, the quality would have to improve.	6.53	6.69	6.71	6.67	5.25
Once someone knows the facts about teleconferencing, they will make use of it.	7.07	7.08	6.89	7.19	7.03
With the cost of video teleconferencing you might as well fly there.	5.98	6.18	6.21	6.13	4.67
The use of teleconferencing needs senior executive support before companies will use it.	7.15	7.11	6.87	7.26	7.25
Our company could make more use of teleconferencing.	7.02	7.02	6.82	7.16	7.00
More people would make use of teleconferencing if they didn't enjoy travelling so much.	7.07	7.03	6.82	7.17	7.19
One of the most important factors in reducing travel costs and time is teleconferencing.	7.04	7.01	6.82	7.14	7.13
Once people gain an understanding and some exposure to teleconferencing, they will start to use it.	7.13	7.13	6.95	7.22	7.13

Table 15/ Effect of Teleconferencing on the Company's Business Travel

Category	Decreased Travel (%)	No Effect (%)	Increased Travel (%)	Don't Know (%)
Users	24	67	2	6
Frequent	31	60	5	4
Infrequent	19	73	0	8

Table 16/ Estimate of Percentage Decrease in Business Trips Due to Teleconferencing

Trips Replaced	All Users (%)	Frequent Users (%)	Infrequent Users (%)
0%	3	0	6
1%-14%	25	24	27
15%-29%	19	27	12
30%-60%	15	18	12
Don't know	37	32	42
Mean trips replaced	19%	22%	16%

Table 17/ Estimate of Percent of Future Business Trips Which Could be Replaced by Teleconferencing

Future Trips Replaced	Total Respondents (%)	Total Users (%)	Frequent Users (%)	Infrequent Users (%)	Non-Users (%)
0%	31	9	5	11	90
1%-14%	14	19	17	21	1
15%-29%	13	18	18	18	1
30%-60%	14	18	21	15	5
61%-100%	3	4	5	2	0
Don't Know	25	34	35	32	4
Mean trips replaced	16%	24%	28%	20%	3%